

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE
STATEMENT**

Docket Number:
12780/102

Application Number
10/726,029

Filing Date
December 1, 2003

Examiner
To be assigned

Art Unit
To be assigned

Invention Title
VACCINES FOR MYCOPLASMA BOVIS AND METHODS
OF USE

Inventor(s)
Joan D. LEONARD et al.

Address to
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

Date: APRIL 8, 2004 Reg. No. 38,413

Signature: Joseph A. Coppola

Sir:

1. In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and in conformance with the procedures of 35 U.S.C. §§ 1.97 and 1.98 and M.P.E.P. § 609, attorneys for Applicants hereby bring the following references to the attention of the Examiner. These references are listed on the attached modified PTO Form No. 1449. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom. The filing of this Information Disclosure Statement and the enclosed PTO Form No. 1449, shall not be construed as an admission that the information cited is prior art, or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b).
2. Copies of each patent, publication or other information listed on the modified PTO form 1449 are not enclosed unless indicated since they were previously cited by or submitted to the Patent Office in prior application Serial No. 09/708,352 which is relied upon for an earlier filing date under 35 U.S.C. 120.

3. It is believed that no fees are due in connection with this Information Disclosure Statement. However, should any fees be due, the Commissioner is authorized to charge Deposit Account No. 11-0600 for such fees. A duplicate copy of this communication is enclosed for charging purposes.

Dated: APRIL 8, 2004

By:



Joseph A. Coppola (Reg. No. 38,413)

KENYON & KENYON

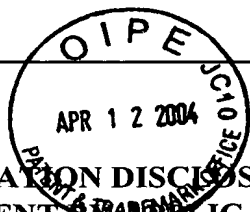
One Broadway

New York, N.Y. 10004

(212) 425-7200 (telephone)

(212) 425-5288 (facsimile)

CUSTOMER NO. 26646



**INFORMATION DISCLOSURE
STATEMENT BY APPLICANTS
PTO FORM 1449**

ATTY. DOCKET NO.
12780/102

SERIAL NO.
10/726,029

APPLICANT(s)
Joan D. LEONARD et al.

FILING DATE
December 1, 2003

GROUP
To Be Assigned

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	PATENT DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,968,525	10/19/99	Fitzgerald et al.			
	5,665,363	09/09/97	Hansen et al.			
	5,585,098	12/17/96	Coleman			
	5,565,205	10/15/96	Petersen et al.			
	5,338,543	08/16/94	Fitzgerald et al.			
	5,178,860	01/12/93	MacKenzie et al.			
	4,981,684	01/01/91	MacKenzie et al.			
	4,517,304	05/14/85	Stott et al.			
	6,548,069 *	04/15/03	Hymas et al.			

*Copy of reference is enclosed.

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
						YES	NO
	DE 29921392U1	12/06/98	Dr. Felgentrager & Co. (Germany)				

*Copy of reference is enclosed.

OTHER DOCUMENTS

EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
		Arnon R (Ed.), "Synthetic Vaccines I" CRC Press, Inc., Boca Raton. Florida, 83-92, 1987.
		Artiushin et al., Arbitrarily Primed PCR Analysis of Mycoplasma hyopneumoniae Field Isolates Demonstrates Genetic Heterogeneity. Int Journal of Systematic Bacteriology, 46:324-328 (1996)

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
		Al-Aubaidi et al., Characterization and Classification of Bovine Mycoplasma, Cornell University, Ithica, New York 490-518 (1970)
		Ayling et al., Application of the polymerase chain reaction for the routine identification of Mycoplasma bovis, Veterinary Reord. 141(12):307-308 (1997)
		Behrens et al., A newly identified immunodominant membrane protein (pMB67) involved in Mycoplasma bovis surface antigenic variation, <i>Microbiology</i> 142:2463-70 (1996)
		Beier et al., Intraspecies polymorphism of vsp genes and expression profiles of variable surface protein antigens (Vsps) in field isolates of Mycoplasma bovis, <i>Veterinary Microbiology</i> 63:189-203 (1998)
		Boothby et al., Experimental Intramammary Inoculation with Mycoplasma Bovis in Vaccinated and Unvaccinated Cows: Effect on Milk Production and Milk Quality, <i>Cornell Vet.</i> 50: 200-204 (1986)
		Boothby et al., Prevalence of mycoplasmas and immune responses to Mycoplasma bovis in feedlot calves, <i>Am. J. Vet. Res.</i> 44(5):831-838 (1983)
'		Boothby et al., Experimental Intramammary Inoculation with Mycoplasma bovis in Vaccinated and Unvaccinated Cows: Effect on Local and Systemic Antibody Response, <i>Can. J. Vet. Res.</i> 51:121-125 (1987)
.		Boothby et al., Immune Responses to Mycoplasma Bovis Vaccination and Experimental Infection in the Bovine Mammary Gland, <i>Can J Veterinary Research</i> 52:355-359 (1988)
		Boothby et al., Experimental Intramammary Inoculation with Mycoplasma Bovis in Vaccinated and Unvaccinated Cows: Effect on the Mycoplasmal Infection and Cellular Inflammatory Response, <i>Cornell Vet.</i> 76(2): 188-197 (1986)
		Boothby J.T., Immunologic Responses to Mycoplasma bovis. University Microfilms International (Dissertation) 1-172 (1982)
		Boothby et al., Detecting Mycoplasma bovis in milk by enzyme-linked immunosorbent assay, using monoclonal antibodies, <i>Am J Vet Re</i> , 47, (5):1082-1084 (1986)
		Butler et al., Use of arbitrarily primed polymerase chain reaction to investigate Mycoplasma bovis outbreaks, <i>Veterinary Microbiology</i> 78:175-181 (2001)
		Chima et al., Immunoprophylaxis of Experimental Mycoplasma Bovis Arthritis in Calves. Protective Efficacy of Live Organisms and Formalinized Vaccines, <i>Veterinary Microbiology</i> , 5:113-122 (1980)
		Cox et al., Adjuvants - a classification and review of their modes of action, <i>Vaccine</i> 15(3):248-256 (1997)
		Fan et al., Application of Polymerase Chain Reaction with Arbitrary Primers to Strain Identification of Mycoplasma gallisepticum, <i>Avian Diseases</i> 39: 729-735 (1995)
		Fan et al., Studies of Intraspecies Heterogeneity of Mycoplasma synoviae, M. meleagridis. and M. iowae with Arbitrarily Primed Polymerase Chain Reaction, <i>Avian Diseases</i> 37:766-777 (1995)
		Geary et al., Inflammatory Toxin from Mycoplasma bovis: Isolation and Characterization, <i>Science</i> 212: 1032-1033 (1981)
		Ghadersohi et al., Development of a specific DNA Probe and PCR for the detection of Mycoplasma bovis. <i>Veterinary Microbiology</i> , 56:87-98 (1997)
		Hanson, M., Mycoplasma mastitis: It's everyone's problem, <i>Bovine Veterinarian</i> 4-8 (September 2001)
		Hanson, M., Mycoplasma mastitis: Prevention and control. <i>Bovine, Veterinarian</i> 12-20 (October 2001)

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
		Heller et al., Antigen capture ELISA using a monoclonal antibody for the detection of Mycoplasma bovis in milk, Veterinary Microbiology, 37:127-133 (1993)
		Houghton et al., Synergism between Mycoplasma bovis and Pasteurella haemolytica in calf pneumonia, The Veterinary Record 113: 41-42 (1983)
		Howard et al., Protection against respiratory disease in calves induced by vaccines containing respiratory syncytial virus bovis parainfluenza type 3 virus, Mycoplasma bovis and M dispar, The. Veterinary Record 121:372-376 (1987)
		Howard et al., Immune Response of Cattle to Respiratory Mycoplasmas, Vet. Immunology & Immunopathology. 17: 401-412 (1987)
		Howard et al., Immune Responses to Mycoplasma Infections of the Respiratory Tract, Vet. Immunology & Immunopathology 10:3-32 (1985)
		Howard et al., Immune Response of Calves Following the Inoculation of Mycoplasma Dispar and Mycoplasma Bovis, Veterinary Microbiology 8:45-56 (1983)
		Howard et al., Immunity to Mycoplasma bovis infections of the respiratory tract of calves, Research in Veterinary Science 28:242-249 (1979)
		Jasper D.E., The role of Mycoplasma in bovine mastitis, J Amer Vet Med Assn 181:158-162 (1982)
		Kirk et al., Epidemiologic analysis of Mycoplasma spp isolated from bulk-tank milk samples obtained from dairy herds that were members of a milk cooperative, J Am Vet Med Assoc 211(8):1036-1038 (1997)
		Knudtson et al., Identification of Mycoplasmatales in Pneumonic Calf Lungs, Vet Microbiol 11:79-91 (1986)
		Kunkel, J.R., Isolation of Mycoplasma Bovis from Bulk Milk, Cornell Vet. 75:398-400 (1985)
		Pettersson et al., Phylogeny of Some Mycoplasmas from Ruminants Based on 16S rRNA Sequences and Definition of a New cluster within the Hominis Group, Int Journal of Systematic Bacteriology 46(4):1093-1098 (1996)
		Poumarat et al., Genomic, protein and antigenic variability of Mycoplasma bovis, Vet Microbiol. 40:305-321 (1994)
		Poumarat et al., Efficacy of spectinomycin against Mycoplasma bovis induced pneumonia in conventionally reared calves, Veterinary Microbiology 80:23-35 (2001)
		Raspberry et al., Membrane-Associated and Cytosolic Species-Specific Antigens of Mycoplasma bovis, Recognized by Monoclonal Antibodies, Hybridoma 14 (5):481-485 (1995)
		Rawadi, G.A., Characterization of Mycoplasmas by RAPD Fingerprinting, Methods in Molecular Biology 104:179-187
		Razin et al., DNA Cleavage Patterns as Indicators of Genotypic Heterogeneity among Strains of Acholeplasma and Mycoplasma Species, Journal of General Microbiology 129:1935-1944 (1983) *
		Rosenbusch et al., Test of an Inactivated Vaccine Against Mycoplasma bovis Respiratory Disease by Transthoracic Challenge with an Abscessing Strain, Abstract G07, 17 th International Organization of Mycoplasmaology, AU Tech Park, Sydney, AU July 22-28 (1998)
		Sachse et al., Comparison Between Different Diagnostic Methods for the Detection of Mycoplasma Bovis, Rev Sci Tech 12(2):576-577 (1993)
		Stott et al., Field trial of a quadrivalent vaccine against calf respiratory disease, The Veterinary Record 121:342-347 (1987)

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
		Subramaniam et al., Species identification of Mycoplasma bovis and Mycoplasma agalactiae based on the uvrC genes by PCR, Molecular Cellular Probes 12:161-169 (1998)
		Thomas et al., Development of a Multivalent Vaccine Against Calf Respiratory Disease, A.F.R.C. Institute for Research on Animal Diseases, Compton, Newbury, Berkshire U.K. 691-695
		Thoms et al., Res. Vet. Sci. 29 (3) 328-332. (1980)
		Urbaneck et al., Experiences with Herd-Specific Vaccines against Respiratory Infections with Mycoplasma bovis in a Large Cattle Feedlot, Veterinary Practitioner 81(9): 756-763 (2000)

*Copy of reference enclosed.

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	